

SECRETS-E-C-R-E-T

50X1-HUM

meters. The boom will be 10 meters longer, however, so that the machine will be able to move out earth to a radius of 75 meters. Other heavy-machine-building enterprises are contributing to the construction of the new machine.

The excavator, scheduled for completion by the second quarter 1951, will be sent to one of the big construction projects. It should have a daily productivity equivalent to that of 6,000 workers.

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MOUNT DIGGING UNIT ON TRACTOR -- Moscow, Mekhanizatsiya Stroitel'stva, Feb 51

This year, the Dmitrov Excavator Plant of the Ministry of Construction and Road-Machine Building put out an experimental model of the new ET-121 ditching machine. Designed for use in laying power and communications cables, the machine consists essentially of a multiple-bucket, chain-drive digging unit, mounted on the rear half of an STZ-NATI tractor.

Because it is mounted on a standard tractor, and has only a small number of extra parts, the cost of the machine is considerably lower than that of other types, and 60 percent less labor is required for its assembly and the manufacture of parts. Spare parts do not constitute a problem, since the machine can use most of the spare parts for the STZ-NATI tractor. Finally, it is simpler to operate.

The machine was put through tests by an interdepartmental committee, running it in clayey soil of average moisture content. Maximum productivity was 93.6 cubic meters per hour, minimum productivity (working in soil of high moisture content) was 60 cubic meters per hour. It was found that the machine was running at only 35 horsepower during the tests, although it has a rating of 52 horsepower. Possibilities of increasing the machine's productivity in the future are under consideration.

On the basis of tests, the committee recommended the machine for series production, and the plant has accordingly put out its first series of the ET-121.

Specifications are as follows:

| | |
|--|--------|
| Weight (kg) | 7,570 |
| Over-all length, bucket frame raised (mm) | 4,800 |
| Height in operation (mm) | 2,150 |
| Maximum height, in traverse (mm) | 3,400 |
| Width, in operation (mm) | 2,500 |
| Width, in traverse (mm) | 2,400 |
| Rated productivity, working continuously (cu m/hr) | 90 |
| Dimensions of trenches dug (mm): | |
| Maximum depth | 1,200 |
| Width | 500 |
| Motor: | |
| Revolutions per minute | 1,250 |
| Horsepower | 52 |
| Length of bucket frame (mm) | 2,550 |
| Number of buckets | 19 |
| Speed of bucket chain (m/sec) | 0.75 |
| Volume of buckets (liters) | 12 |
| Speed of discharge conveyor belt (m/sec) | 2.0 |
| Working speed (m/hr): | |
| Forward (4 speeds) | 74-155 |
| Backward | 60 |

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Traversing speed (km/hr):
 Forward (4 speeds)
 Backward

3.82-8.04
 3.12

CANAL DIGGER DOES WELL ON TESTS -- Moscow, Mekhanizatsiya Stroitel'stva, Mar 51

The Kiev Excavator Plant has built an experimental model of the new EM-161 multiple-bucket transverse excavator. Designed for digging irrigation ditches, it was built according to a plan submitted by the Leningrad Affiliate of the All-Union Scientific-Research Institute for Construction- and Road-Machine Building and designers of the plant.

The machine is mounted on crawlers of adjustable span, the body riding directly on a main crawler, while the second crawler is attached outrigger-fashion to the end of a telescoping tube which houses a transmission shaft. The crawlers can thus move along opposite sides of the irrigation ditch, adjusted to its width. The bucket arm, lowered between the crawlers into the ditch, is adjustable in digging angle and length.

The machine can dig ditches 3.5 meters wide at the top and 1.5 meters wide at the bottom.

At the end of 1950, tests were run on the EM-161 with representatives of the Ministry of Agriculture attending. Working on existing canals, the machine achieved an average productivity of 34 cubic meters per hour, while its average productivity in digging new canals was 29 cubic meters per hour. The over-all performance of the machine was adjudged entirely satisfactory.

Specifications are as follows:

| | |
|--|-------|
| Weight (kg) | 8,000 |
| Length of bucket arm, fitted with 16-liter buckets (mm): | |
| Maximum | 3,620 |
| Minimum | 3,270 |
| Length of bucket arm, fitted with 8-liter buckets (mm): | |
| Maximum | 3,300 |
| Minimum | 3,100 |
| Width of crawlers (mm): | |
| Main crawler | 880 |
| Secondary crawler | 440 |
| Tread (mm): | |
| Transmission tube extended to maximum | 4,900 |
| Transmission tube at minimum | 1,750 |
| Over-all dimensions of machine (mm): | |
| Length | 6,470 |
| Maximum width | 6,325 |
| Minimum width | 3,175 |
| Height | 3,200 |
| Rated productivity (cu m/hr) | 34 |
| Speed of bucket chain (m/sec) | 0.6 |
| Working speeds (km/hr): | |
| First speed | 0.172 |
| Second speed | 0.34 |
| Transport speed (km/hr) | 1.5 |
| Motor: | |
| Type | U-2 |
| Rated horsepower | 22 |
| Rated revolutions per minute | 1,200 |

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NEW EXCAVATOR HAS INCREASED PRODUCTIVITY -- Leningradskaya Pravda, 7 Feb 51

In 1950, the Leningrad Excavator Plant, assisted by the Scientific-Research Institute for Construction- and Road-Machine Building built an experimental model of a new excavator. The new machine has a 25-percent higher productivity than existing models. Series production of the machine will begin this year.

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